Summary

QPF Process Implementation Working Group Meeting #2

Time/Date: 12:30 PM March 28 - 1200 Noon March 30, 2000

Host: Office of Meteorology

Location: National Weather Service Headquarters, Silver Spring, MD
Bldg SSMC2, 14th Floor, Room 14316

Purpose: Provide a forum to discuss and resolve issues and plan activities which support completing the Implementation Time Line Tasks (reference the Corporate Board-approved QPF Implementation Time Line disseminated by OM on 12 November -- see our web site at http://www.nws.noaa.gov/om/qpi/qpf/iwginfo.htm)

Goals: Establish strategy/plan to resolve remaining issues to ensure implementation by 29 September 2000

Participants: CR - Bob Wavrin, Noreen Schwein
ER - Peter Gabrielsen
SR - Ben Weiger, Bill Lawrence
WR - Norm Hoffmann
NCEP - Dave Reynolds, Brett McDonald
OH - Tim Sweeney, John Bradley
APO/OSD - Dave Ruth
OSO - Lloyd Irvin
OM - Tom Graziano, Michael Mercer, Dave Helms

List of Discussion Topics/Implementation Issues and Related Actions

New Actions are Depicted in Redline

1) Reviewed QPF Process IWG Time Line and Implementation Tasks

- Reviewed primary NWS Corporate Board recommendations to be implemented
  - HPC and RFC HAS personnel will produce QPF products for use in river forecast models for all RFCs east of the Continental Divide
  - HPC and RFC HAS QPF products will be distributed to external NWS customers and partners
  - All WFOs may, if they have a local requirement, produce QPFs for internal and external local use
  - QPF production process in the Western Region (west of the Continental Divide) will be reevaluated after the 1999-2000 wet season
- Reviewed additional NWS Corporate Board supporting recommendations to be implemented

1 May 2000: Coordinate start dates for three-phased OT&E with WFOs and RFCs. Ensure each RFC and WFO understands how their responsibilities (e.g., QPF product generation, coordination) will change with the commencement of the OT&E. Action: ER/Peter Gabrielsen, CR/Noreen Schwein, and SR/Ben Weiger.

2) Discussed NWS QPE and QPF product/data flow necessary to support implementation of QPF process modifications and the NPVU (see Meeting 2 slide presentation on QPF Process IWG web site)

- QPE and QPF products transmitted

1 May 2000: Develop prototype cron job/scripts for RFCs which utilize distributeProduct to transmit by the required times a) 1-h HRAP-gridded, GRIB-encoded, auto or HAS quality-assured Stage III (or equivalent) gridded QPEs; b) aggregate 6-h, HRAP-gridded, HAS quality-assured, GRIB-encoded QPEs; and c) HAS-modified, AWIPS 218 (10-km) gridded, GRIB-encoded, 6-h QPFs. Action: SR/Bill Lawrence.

- product formats (vgf, GRIB, gif, XMRG, SHEF)
- communications infrastructure/means of transmission SBN, WAN, etc.
- software modifications (e.g., distributeProduct, afos2awips.txt, etc.)
  - APO SST Implementation of pre-4.3.3 distributeProduct patch

7 April 2000: Install new (test) version of distributeProduct, modified to transmit binary products, at the ABRFC and NCEP. Action APO/Site Support team (SST)

20 April 2000: Install new (test) version of distributeProduct, modified to transmit binary

products, at the NCRFC. Action APO/Site Support team (SST)

10 May 2000: Install (final) tested version of distributeProduct, modified to transmit binary products, at the ABRFC. Action: APO/SST

20 May 2000: Install (final) tested version of distributeProduct, modified to transmit binary products, at the NERFC, NCRFC, and NCEP (OT&E Phase 1 Sites). Action: APO/SST

1 June 2000: Install (final) tested version of distributeProduct, modified to transmit binary products, at the WGRFC, MBRFC, and OHRFC (OT&E Phase 2 Sites). Action: APO/SST

15 June 2000: Install (final) tested version of distributeProduct, modified to transmit binary products, at the MARFC, LMRFC, SERFC, CBRFC, CNRFC, and NWRFC (OT&E Phase 3 Sites and WR RFCs). Action: APO/SST

- product destination (s)
  - NCEP/HPC will transmit to RFCs and WFOs
    - ✓ CONUS 6-h QPFs four times per day through 48 hours; and once per day through 72 hours October 15 - April 15 (for details see updated HPC product schedule on the QPF Process IWG web site)
    - ✓ CONUS 24-h Day 1 & Day 2 QPFs four times per day, and CONUS 24-h Day 3 QPFs twice per day
    - ✓ CONUS mosaic of RFC-generated QPFs on AWIPS 218 grid in twice per day (at ~1330 UTC for the 1200 UTC cycle and ~0130 UTC for the 0000 UTC cycle -- Note: initially, this will only be a Day mosaic of the four 6-h Day 1 QPFs)
  - RFCs will transmit to NCEP, RFCs, and WFOs (HPC will mosaic)
    - ✓ HAS-modified, AWIPS 218 (10-km) gridded, GRIB-encoded, 6-h QPFs
    - ✓ Preliminary and final versions of these aggregate grids should be transmitted by RFCs to the NCEP (IBM SP) by 15 UTC and 21 UTC, respectively.
  - RFCs will transmit to NCEP
    - ✓ 1-h HRAP-gridded, GRIB-encoded, Stage III (or equivalent) gridded QPEs
      - ☐ best available auto or manual 1-h QPE to support atmospheric model data assimilation (see EMC data cut-off times/requirements posted on QPF Process IWG web site. Note: EMC data cut-off times represent the time these data must *arrive* at the IBM SP. Therefore, RFCs should send these QPE products ***10 minutes prior*** to the EMC data cut-off times to allow time for data transmission.)

- ☐ EMC will generate CONUS mosaic for use in Eta Data Assimilation System (EDAS)
- ☐ there are 4 EDAS cycles per day and 4 "bundles" of 3 individual 1-h gridded QPEs are required to support each EDAS cycle (i.e., 16 transmissions of 3 "bundled" 1-h stage 3 or equivalent QPEs per day)
- ✓ aggregate 6-h, HRAP-gridded, HAS quality-assured, GRIB-encoded, QPEs

▸ data cut-off times

1 May 2000: Disseminate and coordinate with RFCs the NCEP/EMC data cut-off requirements (times) for the "bundled" 1-h Stage III (or equivalent) QPE grids to support atmospheric model data assimilation. These requirements are posted on the QPF Process IWG home page. [Note: RFCs will ***not*** transmit every 1-h Stage III product generated but rather only the most recent/best analysis available ***10 minutes prior*** to the EMC data cut-off time. There are 4 EDAS cycles per day and 4 "bundles" of 3 individual 1-h gridded QPEs are required to support each EDAS cycle.] This will ensure the most recent version of these 1-h QPE grids arrive at the IBM SP by the required time, when routine product dissemination begins (see 1 June 2000 Time Line task). Action: ER/Peter Gabrielsen, WR/Norm Hoffmann, CR/Noreen Schwein, and SR/Ben Weiger.

1 May 2000: Disseminate and coordinate with HPC/WFO data cut-off requirements (RFC transmission times) agreed to by the QPF Process IWG for RFC-produced, HAS quality-assured, *aggregate* 6-h gridded QPEs. Preliminary and final versions of these aggregate grids should be sent from RFCs by ***1500 UTC and 2100 UTC***, respectively. [Note: These grids will be sent to the NCEP IBM SP. NCEP/EMC will generate a CONUS mosaic of these grids and transmit them back to the field.] Action: ER/Peter Gabrielsen, WR/Norm Hoffmann, CR/Noreen Schwein, and SR/Ben Weiger.

1 May 2000: Disseminate and coordinate with RFCs data cut-off requirements (times) agreed to by the QPF Process IWG for RFC HAS-modified, AWIPS 218 (10-km) gridded, GRIB-encoded, 6-h QPFs. For the 1200-1200 UTC and 0000-0000 UTC forecast cycles, RFCs should transmit these QPF grids by ***1330 UTC and 0130 UTC***, respectively. [Note: NCEP/HPC will generate a CONUS mosaic of these grids and transmit them back to the field. WR will only provide these QPF grids from Oct-Apr. HPC will label this mosaic *"National mosaic QPF input to the 1200 UTC (or 0000 UTC) run of the NWSRFS."*] Action: ER/Peter Gabrielsen, WR/Norm Hoffmann, CR/Noreen Schwein, and SR/Ben Weiger.

▸ product storage and utilization

1 July 2000: Begin the routine HPC generation and dissemination of a CONUS mosaic of RFC-produced gridded QPFs. Action: NCEP/Dave Reynolds and Brett McDonald.

1 September 2000: Begin the routine EMC generation and dissemination of a CONUS mosaic

of RFC-produced, HAS quality-assured, aggregate 6-h gridded QPEs. Action: NCEP/Dave Reynolds.

15 September 2000: Ensure a) the HPC-generated, CONUS mosaic of RFC-produced gridded QPFs and b) the EMC-generated CONUS, RFC-produced, HAS quality-assured, 6-h QPE mosaic grids are made available via the OSO server. These grids will have a minimum residence time of 48 hours on the server. Action: OSO/Lloyd Irvin.

3) Provided NWS Telecommunications Update

- past vs. current/future capabilities
- supporting requirement blast-up teleconferencing or equivalent

19 April 2000: Provide regional QPF Process IWG representatives instructions to pre-program AT&T "blast-up" teleconferencing at field offices. Action: OM/Michael Mercer.

1 May 2000: Coordinate with RFCs and WFOs to ensure they know the AT&T "blast-up" teleconferencing capability still exists for the NWS and will continue indefinitely. Action: ER/Peter Gabrielsen, WR/Norm Hoffmann, CR/Noreen Schwein, and SR/Ben Weiger.

4) Discussed National QPF Survey Results

- provision of QPF data to partners/customers (reviewed customers, product formats, and means of dissemination)
- must ensure we continue to meet our partners/customers needs with pending implementation of modified QPF process

5) Discussed RFC Operations

- NMAP Implementation Issues
  - RFC installations and integration (NMAP has been installed at all but 2 RFCs east of the Continental Divide)

5 April 2000: Coordinate with RFCs to ensure successful implementation of NMAP at the OHRFC and the MARFC prior to delivery of HPC on-station NMAP training. Action: ER/Peter Gabrielsen.

  - Configuration management
    - ✓ NMAP has been installed at all RFCs using similar directory structure
    - ✓ HPC guidance (vgf files) are stored at RFCs on local AWIPS data server

1 June 2000: Generate and provide to NCEP/NCO and each RFC using NMAP a table

containing critical configuration management (CM) information/details for each RFC to support timely provision of operations maintenance. Action: NCEP/Brett McDonald.

- ✓ If any RFC modifies their local CM the RFC must provide *same-day notification* to HPC/DTB (Brett McDonald) who will revise the master CM table and pass on this updated information to NCEP/NCO (Mary DesJardins)

- Performance
  - ✓ Significant performance enhancements were noticed by ABRFC after implementation of suggestions made by NCEP/NCO (Mary DesJardins) regarding use of AWIPS 218 (10-km) rather HRAP 4-km grid
  - ✓ Software problems to date attributable only to operator error rather than the NMAP code itself
- QPF post-processing (of NMAP grids)
  - ✓ Scripts completed by ABRFC (Bill Lawrence) for 1) gif generation; 2) conversion from GEMPAK format to XMRG and computation of SHEF-encoded FMAPs; and 3) conversion from GEMPAK format to GRIB (in coordination with NCEP/Brett McDonald and Keith Brill)

1 May 2000: Modify NMAP QPF post-processing scripts to generate GRIB-encoded 10 km AWIPS 218 grids as bit maps [Note: This was requested by FSL to facilitate the generation of D2D code for display of QPF grids and the use of bit maps will ensure that this code will not need to be modified should an RFC need to modify their RFC domain]. Ensure the GRIB encoder prepends the WMO ID on the GRIB file. Action: NCEP/Brett McDonald and SR/Bill Lawrence.

15 July 2000: Assess feasibility of utilizing a single software application for encoding grids in GRIB format at the RFCs [Note: Currently utilize two different applications: 1) NCEP/HPC software for QPFs and OH/HRL software for QPEs]. Action: OH/Tim Sweeney and SR/Bill Lawrence.

- Training
  - ✓ HPC Development and Training Branch (DTB) is providing on-station training at all RFCs (on-time and in accordance with QPF Process IWG training schedule)
  - ✓ Feedback from RFCs has been very favorable
  - ✓ HPC has prepared DRAFT NMAP training manual

20 May 2000: Complete and disseminate NMAP training manual to each RFC east of the Continental Divide. Action: NCEP/Brett McDonald.

- ✓ The local NMAP focal point at each RFC is responsible for

recurring on-station training and ensuring RFC staff maintains NMAP proficiency

- Software Upgrades
  - ✓ All requests for software upgrades will be forwarded by HPC to NCEP/NCO
  - ✓ Sequential process agreed to by QPF Process IWG to define/prioritize requirements: Step 1) local RFC NMAP focal point → Step 2) NMAP regional requirements representative → Step 3) national field NMAP requirements representative (Bill Lawrence, who will compile and prioritize requirements with other field representatives) → Step 4) HPC → Step 5) NCEP/NCO
  - ✓ Sequential process agreed to by QPF Process IWG and NCEP/NCO to test and issue new patches: Step 1) NCEP/NCO provides patch to HPC → Step 2) HPC evaluates patch → Step 3) if Step 2 is successful, NCEP/NCO provides patch to ABRFC → Step 4) ABRFC evaluates patch → Step 5) if Step 4 is successful, NCEP/NCO makes patch available to all RFCs on NCEP/NCO server

1 May 2000: Identify NMAP regional focal points. [Note: Bill Lawrence is both the SR regional NMAP representative and the national NMAP field representative.] Action: ER/Peter Gabrielsen and CR/Noreen Schwein.

- Maintenance
  - ✓ Sequential process agreed to by QPF Process IWG and NCEP/NCO (Mary DesJardins) to resolve operational NMAP issues/problems: Step 1) contact local RFC NMAP focal point → Step 2) contact national field NMAP representative (Bill Lawrence) → Step 3) contact HPC/DTB → Step 4) contact NCEP/NCO
- Generation of FMATs and Freezing Level Forecasts
  - ✓ Three phased plan to support generation of gridded temperatures/FMATs at RFCs
    - ☐ *Phase 1* - Pre-IFPS/GFE (NLT 1 Nov 00): QPF and AVN MOS-based temperature forecasts in VGF format will be sent from HPC to the RFCs east of the Continental Divide as a) 6-h temperatures through 72 hours, and/or b) 24-h max/min temperatures through 72 hours. HAS forecasters will adjust these graphically with NMAP, these VGF files will be converted to grids, and these gridded fields will be utilized as input to NWSRFS.
    - ☐ *Phase 2* - IFPS and associated training provided to all WFOs (~4th Quarter, CY 2001): NMAP will continue to

be used at RFCs east of the Continental Divide to adjust HPC QPF for input to NWSRFS. NMAP functionality will be expanded to allow HAS forecasters to adjust WFO-generated gridded temperature mosaics [obtained from the proposed IFPS national digital database].

- ☐ *Phase 3* - RWP00059 [HIWG - see QPI Strategic Plan (1999)] functionality fully integrated into IFPS GFE (~2nd Quarter, CY 2002): RFCs (including those in WR), NCEP, and WFOs will utilize IFPS GFE for generation of the gridded temperature forecasts and QPF.

1 September 2000: Generate AVN MOS-based vgf format temperature (isotherm) files. Verify NMAP can modify these isotherms and generate temperature grids. Action: HPC/Dave Reynolds and Brett McDonald.

15 September 2000: Develop NMAP post-processing scripts to generate FMATs, for input to NWSRFS, from NMAP temperature grids. Action: SR/Bill Lawrence.

1 October 2000: Deliver to RFCs instructions to update NMAP localization files to ingest AVN MOS-based vgf format temperature (isotherm) files and generate temperature grids. [Note: The HAS-generated temperature grids will only be used internally at RFCs and will *not* be a public product.] Action: NCEP/Dave Reynolds and Mary DesJardins.

15 October 2000: Begin routine provision to RFCs of 6-h, CONUS, AVN MOS-based temperature (isotherm) guidance and 24-h max/min guidance thorugh 72 hours to initialize NMAP. Action: NCEP/Dave Reynolds.

- Requirement for HPC 6-h QPFs
  - HPC will transmit consistent guidance package to all RFCs
  - HPC will routinely transmit to RFCs 6-h CONUS QPFs in vgf format a) through Day 2 four times per day and b) through Day 3 for 1200-1200 UTC cycle once per day during months of October-April (see updated HPC product schedule on the QPF Process IWG web site)
- Availability of RFC QPF images and RFC QPS products
  - standardize access to QPF products on RFC web sites
  - include this issue on the agenda of the forthcoming National HAS Workshop scheduled for Summer 2000 (Graziano and Gabrielsen will present)

17 April 2000: Submit request to DRG to obtain WMO headers for RFC QPS products. Action: OH/John Bradley.

17 April 2000: Coordinate with OSO to add to IWIN (under Hydro Products) a link to the web sites of the RFC(s) whose domain intersects a particular state's geographic boundary. This will

enable users to access via IWIN RFC-produced 6-h QPF graphics and QPS text products. Action: OM/Mercer and Graziano.

17 April 2000: Coordinate with OSO to remove from IWIN access to WFO QPS products by 31 July 2000. Action: OM/Mercer.

28 April 2000: Provide OSO a complete listing of WMO headers for the WFO QPS products (which will be removed from IWIN). Action: OM/Michael Mercer.

28 April 2000: Provide OSO a complete state-by-state listing of URLs for the RFC(s) whose domain intersects each state's geographic boundary (so OSO can add IWIN link under Hydro Products). Action: OM/Michael Mercer.

15 May 2000: *All* RFCs east of the Continental Divide will make the HAS-modified QPF input to NWSRFS routinely available via each respective RFC's web site as a graphic *and* as a QPS text product (FMAPs). RFCs will identify these products as "*QPF input to the 1200 UTC (or 0000 UTC) run of the NWSRFS.*" Action: ER/Peter Gabrielsen, CR/Noreen Schwein, and SR/Ben Weiger.

- RFC-HPC and RFC-WFO Coordination
  - RFCs (outside SR) will notify HPC when they transition to non-routine 24 hour operations (notification via HCM or phone)
  - RFCs will notify WFOs and HPC of potentially hazardous hydrometeorological (i.e., significant) situations (notification via HCM or phone)
  - RFCs will initiate coordination with the HPC *and* the effected WFOs when either the amount of QPF forecasted by HPC *or* the WFO-suggested QPF modifications are hydrologically significant (i.e., will produce near flood or flood producing runoff) and substantial differences exist between the HPC forecast and WFO-suggested modifications [in cases where neither the HPC QPF guidance nor WFO QPF input is hydrologically significant, the WFO should be most pro-active and initiate coordination call with neighboring offices (if necessary) and coordinate with HPC]
- QPF Modification/Editing/Updates
  - HAS must review HPC guidance and modify at least first 6-h QPF as needed
  - HPC 6-h QPFs through 48 hours will be provided to all RFCs four times per day
  - In monitoring a hydrometeorological event, if either an RFC forecaster (HAS or otherwise) notices a significant discrepancy in observed vs. forecast precipitation, it should be communicated to the appropriate office(s) [i.e., HPC and WFOs], and action coordinated.
- Service backup

- No service backup currently exists for RFCs

6) Discussed HPC Operations

- Expanded product suite and issuance times

15 April 2000: Develop an HPC product schedule which reflects recent Phase 1 and 2 product suite enhancements and post on QPF Process IWG web site. Action: OM/Graziano and NCEP/Dave Reynolds.

- RFC requirements

22 May 2000: Quantify HPC forecaster confidence in QPF products via the PFD. Characterize degree of forecast confidence using terminology high, moderate, or low. Action: NCEP/Dave Reynolds.

- Product updates and amendments (AWIPS capabilities)
- Generation of gridded RFC QPF mosaics (see section 2 above)
- Status of assigning HPC a unique AWIPS ID to send/receive MHS traffic

1 June 2000: Confirm NCEP (World Weather Building) site ID (WBC) for transmission of point-to-point messages. OM/Dave Helms

- HPC-RFC and HPC-WFO Coordination
- Service backup

21 April 2000: Provide HPC service backup plan to QPF Process IWG members. Action: NCEP/Dave Reynolds.

25 April 2000: Post HPC service backup plan on QPF Process IWG web site. Action: OM/Mercer.

7) Discussed WFO Operations

- Display of RFC, HPC, and EMC QPF/QPE products in D2D
  - HPC Redbook graphic products – displayable with AWIPS Build 4.3.1
  - RFC and EMC gridded products
    - ✓ at WFOs RFC QPF and NCEP QPE grids will be cropped to state scale or slightly larger and displayed as contour or image (WFOs will need to view neighboring WFO domains, particularly for service back-up)
    - ✓ at RFC and NCEP, RFC QPF and NCEP QPE grids will not be cropped and will be displayed as images
    - ✓ GRIB-encoded QPFs generated at RFCs will be bit maps (i.e.,

QPF will be sent on national 10-km 218 grid but only grid points within a respective RFC's domain will be populated with forecast precipitation)

30 March 2000: Demonstrate initial capability to display RFC QPF (bit map) on an AWIPS configured for a WFO. Action: APO/FSL

20 April 2000: Complete development of code (pre - 4.3.3 D2D patch) to display gridded RFC QPF (individual and mosaic) and NCEP/EMC CONUS (Stage IV) QPE on WFO and RFC AWIPS configurations. Action: APO/FSL

30 April 2000: Utilizing live data, complete testing of code (pre - 4.3.3 D2D patch) to display gridded RFC QPF (individual and mosaic) and NCEP/EMC CONUS (Stage IV) QPE on WFO and RFC AWIPS configurations. Action: APO/FSL

20 May 2000: Install (pre - 4.3.3 D2D patch) to display gridded RFC QPF (individual and mosaic) and NCEP/EMC CONUS (Stage IV) QPE on WFO and RFC AWIPS configurations at the ABRFC, NERFC, NCRFC, associated WFOs, and NCEP (OT&E Phase 1 Sites). Action: APO/SST

1 June 2000: Install (pre - 4.3.3 D2D patch) to display gridded RFC QPF (individual and mosaic) and NCEP/EMC CONUS (Stage IV) QPE on WFO and RFC AWIPS configurations at the WGRFC, MBRFC, OHRFC, and associated WFOs (OT&E Phase 2 Sites). Action: APO/SST

15 June 2000: Install (pre - 4.3.3 D2D patch) to display gridded RFC QPF (individual and mosaic) and NCEP/EMC CONUS (Stage IV) QPE on WFO and RFC AWIPS configurations at the MARFC, LMRFC, SERFC, and associated WFOs (OT&E Phase 3 Sites). Action: APO/SST

- Availability of RFC/WFO QPF and QPS
  - establish home page link to RFC QPF and QPS
  - establish home page link to WFO QPF and QPS (if generated)
- GFE
- Mountain Mapper
- Build 5.1 and beyond
- Coordination
  - Promote consistency between WFO zones and RFC QPF
    - ✓ WFOs should review HPC preliminary QPFs prior to zone issuance, and if significant inconsistencies exist, WFOs should coordinate with neighboring offices and/or HPC prior to HPC issuance of final QPFs to mitigate inconsistencies [if HAS function forecaster is in at RFC, WFO(s) should contact HAS first and if QPF guidance issued by HPC, or QPF suggested by WFO(s), is hydrologically significant, the HAS should initiate a

conference call with the HPC and the effected WFOs to discuss]

- ✓ Review HPC preliminary QPF prior to zone issuance and coordinate with RFC HAS and/or HPC
- ✓ Review HPC final QPF and RFC HAS QPF and coordinate with HAS as necessary

- Forecast Updates
  - ✓ In monitoring a hydrometeorological event, if a WFO forecaster notices a significant discrepancy in observed vs. forecast precipitation, it should be communicated to the RFC and WFOs (as appropriate), and action coordinated.

8) Reviewed the NPVU

- Status of prototype verification system implementation
- Data issues
- Provision of verification statistics and format

9) Discussed Training

- RFC-HPC Hydromet Course
  - Designed to ensure RFC HAS and HPC forecasters meet the demands of the modified process
    - ✓ 39 HAS forecasters (all 100% are met-qualified)
    - ✓ 13 HPC forecasters (will also serve as instructors)
    - ✓ 1-2 additional forecasters from each RFC
  - 6-day COMET residence course
  - Companion web-based training materials will be developed
  - 3 offerings in FY01 (2 in CY 00) and additional courses in FY02+ as needed
  - COMET will develop a pre-test for RFC staff who are not met- qualified to ensure they have basic met knowledge/skills necessary to successfully complete this course
  - Included in FRG Draft NSTEP FY01 Implementation Plan
- SOO Heavy Rainfall/Flash Flood Symposia
  - Train-the-Trainer course targeted at SOOs
  - 5-day COMET residence course
  - Companion web-based training materials
  - First course late FY00 (August and September)
  - Included in FRG NSTEP FY00 Implementation Plan

10) Reviewed ABRFC Pre-OT&E Test

- Goals and Strategy
  - establish effective means of coordination
  - enable RFCs to view raw hydrologic model output and forecast level of

flood threat
- increase WFO and RFC awareness and use of HPC QPF products
- issue HCMs from ABRFC on a routine basis
- associated WFOs are still producing and transmitting QPF to the ABRFC
- ABRFC HAS function forecasters are using NMAP to modify HPC guidance
- HAS-modified (HPC) QPF is being input routinely/exclusively to NWSRFS

▸ Time Line
- will continue until formal OT&E begins 1 June 2000

▸ Issues/Lessons learned
- No problems noted to date
- QPF Process IWG agreed to begin similar tests at other RFCs prior to start of formal OT&E

12 April 2000: Provide QPF Process IWG members the start dates for Pre-OT&E Tests at all RFCs (other than the ABRFC) east of the Continental Divide. Action: ER/Peter Gabrielsen, CR/Noreen Schwein, and SR/Ben Weiger.

11) Discussed June-July 2000 Operational Test and Evaluation Planning

- Goal
  - Validate each component of the modified QPF Process and demonstrate improved services to partners and customers.

▸ Scope/Framework
- Three-phased (1 RFC from each Region and associated WFOs per each phase)
- WFOs will cease production of QPF for input to NWSRFS
- Begins 1 June and ends 31 July 2000
- Solicit feedback from field managers HICs, WFOs, and HPC – HICs will coordinate with MICs
- Identify problems (if any) and define actions to resolve
- Conduct QPF Process IWG Meeting 3 from 22-24 August, 2000 (if needed)
- Prepare QPF process evaluation/endorsement from QPF Process IWG (short memo from team members delivered to Director Kelly and Corporate Board -- see September 7, 2000 QPF Implementation Time Line task)

▸ Forecast Process Components
- HPC
- RFCs
- WFOs
- NPVU
- Users

- Items to validate
  - software functionality (NMAP, D2D)
  - on-time product issuance
  - communications infrastructure and software (distributeProduct)
  - timely data and product delivery
  - timely software support/trouble shooting
  - effective coordination (with HPC and WFOs)
  - product consistency (forecast zones)
  - customer and partner interaction and provision of services (no degradation)
  - service backup
  - RFC NMAP training/proficiency
  - staffing requirements
  - resources (systems and communications)
- Means of validation
  - establish web-based problem and/or suggestion log (to be completed each shift by HAS function forecasters, and HICs as needed)
    - ✓ logs will be reviewed by OM at least 3 times per week
    - ✓ coordinate format of log with MB (Joe Smith)
    - ✓ QPF Process IWG field reps will notify MICs to provide associated RFC (s) feedback
    - ✓ QPF Process IWG will conduct weekly conference calls every Thu 10 AM beginning 8 June 2000

24 April 2000: Develop DRAFT web-based problem and/or suggestion log and provide to QPF process IWG members for review. Action: OM/Mercer

20 May 2000: Implement web-based problem and/or suggestion log for OT&E. Action: OM/Mercer

  - support personnel will maintain supplemental logs
    - ✓ the NMAP focal point at each RFC
    - ✓ Bill Lawrence (national NMAP field representative)
    - ✓ HPC support staff
    - ✓ NPVU leader